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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,560	06/27/2003	Doo-Hwan Jo	P-0401	7285
34610	7590	08/09/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			YUN, EUGENE	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/607,560	Applicant(s) JO, DOO-HWAN	
	Examiner Eugene Yun	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,13-25,28 and 35-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,13-25,28 and 35-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 13-25, 28, and 35-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kjeldsen (EP 0364935) in view of Fujiwara (JP 10-304036).

Referring to Claim 1, Kjeldsen teaches an electronic device, comprising:

- a sound generator (see col. 2, lines 35-37) having a first plurality of holes 10 (fig. 4);
- a housing having a second plurality of holes (see col. 2, lines 39-41 and 6 in fig. 4); and
- a sound controller between the sound generator and housing (see col. 2, lines 38-41).

Kjeldsen does not teach the sound controller including a leakage member having a third plurality of holes for leaking sound traveling from the holes in the sound generator to the holes in the housing. Fujiwara teaches the sound controller 20 (fig. 1) including a leakage member having a third plurality of holes 60 (fig. 1) for leaking sound traveling from the holes in the sound generator to the holes in the housing 50 (fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

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invention was made to provide the teachings of Fujiwara to said device of Kjeldsen in order to improve audio quality in multiple frequencies.

Referring to Claim 16, Kjeldsen teaches a communications terminal comprising:

A housing (see col. 2, lines 39-41) having a first plurality of holes 10 (fig. 4);

A receiver within the housing (see col. 2, lines 35-37) to output sound through a second plurality of holes 6 (fig. 4); and

A sound controller between the receiver and housing (see col. 2, lines 38-41);

Kjeldsen does not teach the sound controller including a leakage member having a third plurality of holes for leaking sound traveling from the holes in the sound generator to the holes in the housing. Fujiwara teaches the sound controller 20 (fig. 1) including a leakage member having a third plurality of holes 60 (fig. 1) for leaking sound traveling from the holes in the sound generator to the holes in the housing 50 (fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Fujiwara to said device of Kjeldsen in order to improve audio quality in multiple frequencies.

Referring to Claim 35, Kjeldsen teaches a receiver unit of a terminal device comprising:

A main body including of an outer case 2 (fig. 1) forming an outer portion and an inner case 7 (fig. 1) coupled with the outer case and having a plurality of sound discharge holes (see col. 2, lines 38-41); and

A receiver disposed inside the main body and generating a sound (see col. 2, lines 35-37).

Kjeldsen does not teach a sound leakage unit disposed between the receiver and the sound discharge holes of the inner case and leaking a portion of the sound generated from the receiver before being discharged through the sound discharge holes. Fujiwara teaches a sound leakage unit disposed between the receiver 20 (fig. 1) and the sound discharge holes of the inner case 50 (fig. 1) and leaking a portion of the sound generated from the receiver (see leakage holes 60 in fig. 1) before being discharged through the sound discharge holes. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Fujiwara to said device of Kjeldsen in order to improve audio quality in multiple frequencies.

Referring to Claims 2 and 17, Kjeldsen also teaches the sound controller controlling the discharge of sound through the holes in the housing based on a predetermined sound leakage pattern (see col. 4, lines 3-7).

Referring to Claims 3 and 18, Kjeldsen also teaches the predetermined sound leakage pattern increasing uniformity of output sound volume within a predetermined distance range from the device (see col. 4, lines 8-18).

Referring to Claims 4 and 19, Kjeldsen also teaches a portion of the holes in the leakage member are aligned with the holes in the housing and wherein other holes in the housing are blocked by the leakage member (see col. 3, lines 19-30).

Referring to Claims 5 and 20, Kjeldsen also teaches the holes in the leakage member arranged relative to the holes in the housing to leak sound in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 6 and 21, Kjeldsen also teaches the holes in the leakage member arranged at regular intervals in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 7 and 22, Kjeldsen also teaches the leakage member cylindrical in shape and wherein the holes in the leakage member are in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 8 and 23, Kjeldsen also teaches the holes in the housing and the holes in the leakage member arranged in a same pattern (see col. 3, lines 19-30).

Referring to Claims 9 and 24, Kjeldsen also teaches said pattern as a circular pattern (see col. 3, lines 19-30).

Referring to Claims 10 and 25, Kjeldsen also teaches a spacing between the sound generator and housing corresponds to a thickness of the leakage member (see col. 4, lines 8-18).

Referring to Claims 13 and 28, Kjeldsen also teaches the holes in said wall are coincident with the holes in the housing (see col. 3, lines 19-30).

Referring to Claim 14, Kjeldsen also teaches the electronic device as a communications terminal (see col. 2, lines 35-37).

Referring to Claim 15, Kjeldsen also teaches the communications terminal as a mobile communications terminal (see col. 2, lines 35-37).

Referring to Claim 36, Kjeldsen also teaches a plurality of leakage holes formed between a front side of the receiver and an inner side of the inner case in order to leak a sound therethrough in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

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Referring to Claim 37, Kjeldsen also teaches the sound leakage unit including leakage holes formed at regular intervals in a circumferential direction of the lower housing of the receiver, and a plurality of protrusions formed protruded with a certain width (see fig. 3 and col. 3, lines 9-18).

Referring to Claim 38, Kjeldsen also teaches the sound leakage unit of the receiver unit has a certain width and is formed as a cylindrical type with a plurality of leakage holes in a circumferential direction, and both sides of which are respectively attached at a lower housing of the receiver and the inner case (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 39, 40, 43, and 44, Fujiwara also teaches the holes in the leakage member arranged at least substantially perpendicular to the holes in the housing and/or sound generator (see leakage holes 60 in proportion to 20 in fig. 1).

Referring to Claims 41 and 45, Fujiwara also teaches the holes in the housing aligned with the holes in the sound generator (see fig. 8).

Referring to Claims 42 and 46, Fujiwara also teaches the holes in the leakage member arranged to reduce a change in volume of the sound passing through the second plurality of holes (see second half of ABSTRACT).

Response to Arguments

3. Applicant's arguments with respect to claims 1-10, 13-25, 28, and 35-46 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Eugene Yun
Examiner
Art Unit 2618

EY



Matthew D. Anderson
Supervisory Patent Examiner